they can be established as "gene" mutations, it will be necessary to find a means for identifying the genes involved. Obviously, if such genes could be identified it would place the somatic mutation theory of cancer on a firm foundation, but the important fact remains that the abrupt changes are self-perpetuating.

In view of the experimental evidence collected in recent years, it may be concluded with some degree of confidence that the somatic mutation theory of cancer does not oppose the facts that have so far been brought to light. Undoubtedly there remains much research to be done before the theory can be either proved or disproved. An analysis of the problem at least makes tenable, for the present, the proposal that the change from the normal to the malignant cell is of the nature of somatic mutation, be it a nuclear or a cytoplasmic change, directly or indirectly involving the division mechanism.

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News and Notes

Scientists in the News

Wade Arnold, executive producer of the National Broadcasting Company, was named as first winner of the American Heart Association's annual Howard W. Blakeslee Award for outstanding scientific reporting on heart and blood vessel diseases. Mr. Arnold was cited for writing and producing "Only One to a Customer," a documentary radio program broadcast last year.

J. Leroy Bennett, manager of chemical operations for the Explosives Department of Hercules Powder Company since 1931, has retired after 46 years of service with the company.

Osborne Bezanson, chemist, and president of the Chemstrand Corporation. has been named chairman of the board. He will be succeeded as president by **Henry H. Bitler,** now of American Viscose Corporation, the appointments becoming effective Dec. 1.

M. R. Clarkson, deputy administrator of the Agricultural Research Administration, has been placed in charge of the Department of Agriculture's program for eradication of vesicular exanthema, a disease of hogs.

President Howard L. Bevis, of the Ohio State University, on April 17 recommended to the University's Board of Trustees that **Byron T. Darling,** associate professor of physics, be dismissed from the University faculty, effective as of that date.

The recommendation was made after a hearing given Professor Darling and attended by the members of the University faculty, the members of the president's office, Professor Darling, Joseph Forer, his counsel, and James C. Harris, assistant professor, Department of Physics.

Dr. Darling's refusal, on the grounds of his rights under the Fifth Amendment, to answer questions put to him by the House Un-American Activities Committee in Washington, March 13, as to whether he then belonged or ever had belonged to the Communist party or any related organization, and whether he had ever performed services for or received funds from that party or such organizations "did grave injury to the University and its faculty," to quote the president. "By refusing to say whether certain of his colleagues were Communists, he cast an unwarranted aspersion upon them individually.

"These considerations lead only to the conclusion that Dr. Darling has shown his unfitness for the position he holds. They show a lack of candor and moral integrity in matters vital to his professorial status. They show gross insubordination to University policy. They show conduct clearly inimical to the best interests of the University."

The University president said that Dr. Darling on the Ohio State campus and throughout the country

". . . is regarded as an outstanding research man and . . . a very good teacher. . . . He appeared consistently during all the time he was on our campus as a competent and devoted man of science. There appeared from his conduct no reason to question his loyalty.

"These facts are relevant and would carry weight," the recommendation continued, "were it not for Dr. Darling's public refusal to answer pertinent questions."

President Bevis' recommendation stated: "The Fifth Amendment is indeed a guaranty that one cannot be required to make statements which can be used as evidence against him in a criminal proceeding. But the Fifth Amendment does not refute the inferences which generally flow from public refusal to answer pertinent questions and does not prevent our consideration of the effect of such inferences in determining the fitness of Dr. Darling to hold professorial rank."

President Bevis quoted from the statement issued March 31 by the Association of American Universities, composed of 37 of the leading institutions of the United States and Canada, of which Ohio State is a member, which said, "There is a line at which 'freedom' or 'privilege' begins to be qualified by 'duty' or 'obligation' . . . . Any member of the University who crosses the duly established line is not excused by the fact that he thinks the line is ill-drawn. . . ."

This statement, which on April 17 was sharply criticized by the Columbia University Chapter of the American Association of University Professors, may be compared with the resolution on "Invoking the Fifth Amendment," adopted by the Annual Meeting of the AAUP in Chicago on March 28. This reads as follows:

"If, in the investigation of members of faculties of institutions of higher education by a Committee of the Congress of the United States or other legislative bodies, a faculty member invokes the Fifth Amendment of the Constitution of the United States as the reason for not replying to questions of the Committee concerning his views and affiliations, and the Committee accepts this reason as a valid constitutional reason for not replying, this the Thirty-ninth Annual Meeting of the American Association of University Professors concurs in the judgment of the Council of the Association, reported to the meeting, that invoking the Fifth Amendment in these circumstances is not, in and of itself, justifiable cause for the dismissal of the faculty member. However, since a decision to invoke the Fifth Amendment involves complex legal and ethical considerations, this statement is not to be construed as advising or generally approving such action by teachers under investigation."

J. A. Weber, professor emeritus of anatomy at the University of Geneva, Switzerland, will spend several months in the U. S. as visiting research scientist at Manhattan State Hospital. Dr. Weber will continue his studies on the synapse, with particular emphasis on its structure in brain biopsies of psychotic patients.

Education

The **Engineer's Council for Professional Development** announces enrollments of 156,080 undergraduates and 20,469 graduate students, fall of 1953, in the 201 institutions in the U. S. and Canada accredited by them.

The **Massachusetts Institute of Technology** will conduct a special Summer Program in Electrical and Optical Methods of Instrumental Chemical Analysis the last two weeks in August. The first program, Aug. 17–21, on electrical methods, will emphasize polarography, potentiometry, conductimetry, amperometric titrations, automatic titration methods, and applications of self-balancing recording potentiometers. The second, on optical methods, Aug. 24–28, will include spectrophotometry (visible and ultraviolet), colorimetry, fluorimetry, turbidimetry, nephelometry, photometric titrations, reflectance techniques, and flame photometry. David N. Hume and Lockhart B. Rogers will be in charge.

The **U. S. Geological Survey** will sponsor a fifth Ground Water School, Aug. 16–29, at the University of Wisconsin for 50 of their young staff geologists and engineers. Candidates for the school are selected by district offices of the Ground Water Branch of the survey. Subjects to be studied will include ground water geology and hydrology, and instruments and methods. There will be at least one field trip, probably to the Baraboo Range-Devil's Lake area.

Grants and Fellowships

Allied Chemical & Dye Corporation announces the award of 38 graduate fellowships for the academic year 1953–1954, to promote study and research in the fields of chemistry and chemical engineering by students in their final year of graduate study. The fellowships will provide $1500 for unmarried fellows and $2000 for married fellows, in addition to payment of tuition, and will be available in 26 universities and other educational institutions in the U. S. and Canada.

The **University of Chicago Medical School,** through the generosity of friends of the late Howard Sloan, has established a $500 annual research grant in the Department of Physiology, to be known as the Dr. Howard Sloan Memorial Research Grant.

The **Muscular Dystrophy Associations of America, Inc.,** have awarded two grants, one of $8343 to the University of Colorado Medical School for work by Heinz Herrmann and his staff; and the other, in the amount of $10,190, to the Worcester Foundation for Experimental Biology, for work by Harris Rosenkrantz and staff.

The **National Science Foundation** has announced approval of 60 grants, totaling $469,550, in the biological and physical sciences, and to support studies and conferences on science and scientific education. This

is the third group of awards to be announced this year for the support of basic research and other matters related to its mission. During the current fiscal year, the foundation has awarded a total of $1,810,200 for 190 grants in support of scientific activities. Since the beginning of the program in 1950, 291 grants have been awarded totaling $2,950,775. The fields included are astronomy, chemistry, developmental biology, earth sciences, engineering, genetic biology, mathematics, molecular biology, physics, psychobiology, regulatory biology, research education in the sciences, scientific information, studies in science, and systematic biology.

The Rockefeller Foundation has made a grant of $30,000 to the **Society of American Foresters** for a study of progress and needs in forestry research in America. The survey will be conducted under the supervision of a committee jointly appointed by the society and the National Research Council. E. L. Demmon, of Asheville, N. C., has been named chairman of the committee. He is vice president of the society as well as the society's representative to NRC's Division of Biology and Agriculture.

In the Laboratories

The **Agricultural Research Administration** of the USDA announces the following personnel changes in the Division of Weed Investigation: Robert N. Anderson to weed control studies in sugar beets in cooperation with North Dakota Agricultural College, replacing Don E. Kratochvil, who is now at South Dakota State College; Eugene H. Cronin to the halogeton research project at Utah State Agricultural College; Ellis W. Hauser replaces Edward S. Hagood at the Georgia Experiment Station to work on the control of nutgrass and weeds in cotton; Jesse M. Hodgson from Meridian, Idaho, to Montana State College, for aquatic weed and Canada thistle studies; James H. Hughes appointed to the Plant Industry Station staff at Beltsville; Leonard L. Jansen for physiological research on halogeton at Utah State Agricultural College; Melvin K. McCarty will replace D. L. Klingman in June to work on grassland weeds at the University of Nebraska; and Willard C. Robocker will go to the University of Nevada in May to conduct ecological studies on halogeton.

The **Edison Research Laboratory** at West Orange, N. J., has instituted a program combining work as technicians in the laboratory with evening study toward a degree in engineering. It is designed for high school graduates showing aptitude for a science career but whose financial status is such that higher education would be out of the question even with an average scholarship. They are employed full time as laboratory assistants by day, and are enrolled in night classes at the Newark College of Engineering with company financial aid toward their tuition and fees provided they maintain satisfactory records. It is expected that they will obtain their degrees in eight years.

Recent additions to the research staff of the **Miner Laboratories** are: Leonard Laskin, formerly with Monomer Polymer Corporation; Mary Lou O'Connor, formerly with Toni Research Laboratory; and Harris R. Till, Jr., formerly with Western Electric Company.

Meetings and Elections

The **American Society of Tool Engineers** has elected Roger F. Waindle, of Muskegon, Mich., president, to succeed L. B. Bellamy. Other officers elected at the annual meeting in Detroit were Joseph P. Crosby, Harry B. Osborn, Jr., and Howard C. McMillen, vice presidents; Raymond C. W. Peterson, secretary; and Harold E. Collins, treasurer.

The **Ciba Foundation** will sponsor four symposia during the coming months: "The Peripheral Circulation in Man," O. G. Edholm, chairman, May 11–13; "The Kidney," July 7–9, followed by a general meeting of the Renal Association of the Royal Society of Medicine, July 10; "Humoral and Neurogenic Factors in Hypertension," G. W. Pickering, chairman, July 28–30; and "Experimental Leukemias," Nov. 17–19. Inquiries should be addressed to 41 Portland Place, London, W.1.

A **Sixth Annual Geological Field Conference** will be sponsored by the Department of Geology of Indiana University and the Indiana Geological Survey, May 8–10. Centering attention on "Ordovician Stratigraphy, and the Physiography of a Part of Southeastern Indiana," the party will cross Jefferson, Ohio, and Switzerland counties. Write to Clifty Inn (Headquarters), Clifty Falls State Park, Madison, Ind., for reservations.

The 28th annual convention of the **National Fertilizer Association** will be held at the Greenbrier Hotel, White Sulphur Springs, W. Va., June 15–17. "Efficient Water Utilization" will be discussed by a panel of experts at an open meeting of NFA's Plant Food Research Committee on the morning of June 15. Participants will be W. B. Camp of W. B. Camp & Sons, Bakersfield, Calif.; R. Q. Parks, Division of Soil Management and Irrigation, BPISAE, U. S. Department of Agriculture, Beltsville, Md.; James Ferguson, Memphis, Tenn., who will speak for the Sprinkler Irrigation Association, Washington, D. C.; and H. H. Tucker director, Coke Oven Ammonia Research Bureau, Columbus, Ohio, and chairman of the committee, who will preside. Addressing the first general session, June 16, will be Hugh M. Comer, president, Avondale Mills, Sylacauga, Ala.; the Honorable True D. Morse, Under Secretary of Agriculture, Washington, D. C.; and Louis Ware, president, International Minerals & Chemical Corporation, Chicago, who will speak in his capacity as chairman of the Association's Board of Directors. At the second general session, June 17,

Russell Coleman, NFA's president will lead off in a panel discussing "Proper Use of More Fertilizer," with Roy Battles, Assistant to the Master, The National Grange, as moderator. The following will take part: Milton C. Cummings, president, Farmers and Merchants State Bank, Effingham, Kans., representing the credit agencies; Werner L. Nelson, in charge, Soil Fertility Research, School of Agriculture, North Carolina State College, representing the Land Grant Colleges; Frank W. Parker, Director of Soils Research, BPISAE, U. S. Department of Agriculture; and W. F. Price, Plant Food Division, Swift & Company, Chicago, speaking for the fertilizer industry.

The **Rutgers University College of Pharmacy** will sponsor the University's Second Annual Pharmaceutical Conference, May 13, for the discussion of problems of the pharmaceutical and allied health professions. Speakers include: Walter E. Hoadley, Jr., of Armstrong Cork Co., Lancaster, Pa., on the economic outlook; Floyd E. Blauch, of the Federal Security Agency, on pharmaceutical education; Seymour Jeffries, of Brooklyn College of Pharmacy, on drug store merchandising; and William Pleuthner, of Batten, Barton, Durstine & Osborne, on public relations. The afternoon session will feature a panel discussion with Robert P. Fischelis, secretary of the American Pharmaceutical Association, as moderator.

The **Springfield (Mass.) Chapter, AAAS,** will meet on April 30 in the Springfield Museum of Natural History. James L. Tullis, associate director of the Blood Characterization and Preservation Laboratory at Harvard, will talk on "Research Developments in the Collection, Separation, Preservation, and Uses of Blood."

Miscellaneous

The Submarine Thermal Reactor prototype plant has successfully entered its first phase of operation at the **U. S. Atomic Energy Commission** National Reactor Testing Station in Idaho. This phase is known as "criticality" and means that the nuclear components of the reactor are sustaining an atom fissioning chain reaction. Further testing and operation will continue, and the plant will be brought to full power gradually in order to determine the operating characteristics of the similar plant which will power the USS "Nautilus," and to train the crew for this vessel. It is expected that such operation will add to the significant contributions to reactor technology already made through experimentation, design, and construction of the STR. The STR plant in Idaho and the similar plant for the "Nautilus" have been a joint project of the AEC's Argonne National Laboratory, the Atomic Power Division of the Westinghouse Electric Corporation, and the Electric Boat Division of the General Dynamics Corporation, assisted by numerous subcontractors.

A resolution (H. J. Res. 166) for establishing a **Joint Committee on Science** has been introduced in Congress by Representative Carl Hinshaw (R., Cal.). The committee would consist of seven members from each house, together with "such other members as shall signify their intention" of joining. The purpose of the proposed committee, as defined in section 2 of the resolution, follows: "In order to promote a better understanding of the actual and potential impact of science upon public affairs, including human and natural resources, interstate and foreign commerce, relations with foreign nations, the common defense and security, and the national health, prosperity, and welfare, the committee shall endeavor to keep itself informed with respect to, and bring to the notice of Members of Congress, the results of scientific research and technical development which bear upon public affairs, and the problems being encountered in maintaining in the U. S. a scientific and technical effort of outstanding quality and accomplishment." The committee would work closely with the National Science Foundation and other agencies.

The **National Citizens Committee for Educational Television,** Ring Building, Washington 6, D. C., has issued a pamphlet, "Educational Television—An Opportunity Equal to Invention of Printing," which will prove both informative and helpful to those concerned with the framing of applications for the 242 channels reserved by the FCC for educational purposes. Copies will be supplied without charge.

The **National Geographic Society** and the **Marine Laboratory of the University of Miami** at Coral Gables are conducting a long-range investigation into the lives of the pelagic fishes, including the tarpon and sailfish of sportsmen and the food fishes such as tuna and mackerel which can fortify with protein the diets of millions of people. This work is a continuation and enlargement of the intensive study of the oceanic plankton which the National Geographic Society and the Marine Laboratory have pursued over the last two years. F. G. Walton Smith, head of the Marine Laboratory since 1940, has been named director of the pelagic fishes investigation. He will be assisted by Hilary B. Moore, oceanographer, and by some 60 scientists and graduate students of the laboratory.

The **National Science Fair,** sponsored by leading newspapers and Science Service through its Science Clubs of America, will be held at Oak Ridge, Tenn., May 7–9. About 70 high school students, winners in local fairs, will exhibit their scientific achievements. Awards will be presented in various categories. The judges include: from the Oak Ridge Laboratory and Atomic Energy Commission, G. A. Andrews, R. A. Charpie, L. B. Emlet, Alexander Hollaender, C. E. Larson, R. S. Poor, Elizabeth Rona, H. N. Roth, Morse Salisbury, C. S. Shoup, A. H. Snell, J. A. Swartout, and A. M. Weinberg; and C. L. Comar from the University of Tennessee and Carl Seyfert of Vanderbilt University.